This listing of claims replaces all prior versions and listings of claims in this application.

Listing of Claims:

1. (Currently Amended) A two-stage optical amplifier comprising

at least one input and at least one output,

a first stage comprising at least one optical amplifying unit and at least one input and at least one output,

a second stage comprising at least one optical amplifying unit and at least one input and at least one output,

contacts disposed at a mid-stage between said first and second stages connectable to an OADM, and

a local control-communication circuit comprising a control-communication channel between said first and second stages that controls said first and second stages so as to allow dynamic matching of at least one optical characteristic of one of said first and second stages to respective at least one characteristic of the other of said first and second stages, and to prevent automatic shutting down of one of said first and second stages whenever the other of said first and second stages is shut down, wherein

the at least one input of the two-stage optical amplifier is connected to the at least one input of the first stage,

the at least one output of the two-stage optical amplifier is connected to the at least one output of the second stage,

the at least one output of the first stage and the at least one input of the second stage are respectively connected to the contacts disposed at a mid-stage of the two-stage optical amplifier, thereby allowing the introduction of an optical element either between the first stage and the second stage of the two-stage optical amplifier, or between any of the stages of said two-stage optical amplifier and a complementary stage of another similar two-stage optical amplifier, and

the control-communication circuit is arranged so as to be selectively configurable either to form the control-communication channel between the first stage and the second stage of said two-stage optical amplifier, or to disconnect said first stage from said second stage while enabling each of the first stage and the second stage to form a separate control-communication circuit and control-communication channel with a complementary stage located on another similar two-stage optical amplifier.

2. (Previously Presented) The two-stage optical amplifier according to Claim 1, wherein:

said two the first and second stages are preliminarily matched to one another on at least one optical characteristic so that

the first stage of the amplifier is preliminarily adjusted to match to a set of characteristics of the second stage,

the second stage of the amplifier is preliminarily adjusted to match to a set of characteristics of the first stage,

the first stage of the amplifier approximately matches a complementary stage of said amplifier or of another similar amplifier, and

the second stage of the amplifier approximately matches a complementary stage of said amplifier or of another similar amplifier; and said control-communication channel interconnects the two stages with one another for controlling at least one parameter of either the first or second stage selected from the group consisting of: gain, gain flatness, and gain tilt.

3 - 6. (canceled)

7. (Currently Amended) The two-stage optical amplifier according to Claim 1 ~~Claim 6~~, wherein: the first stage and the second stage are preliminarily matched so that the first stage of the two-stage optical amplifier is preliminarily adjusted to match to a set of characteristics designed for the second stage, and

the second stage of the two-stage optical amplifier is preliminarily adjusted to match to a set of characteristics designed for the first stage,

thereby any of the first stage and the second stage of said two-stage optical amplifier approximately matches to a complementary stage of said two-stage optical amplifier or of another similar two-stage optical amplifier.

8. (cancelled)

9. (Currently Amended) The two-stage optical amplifier according to Claim 1 ~~Claim 6~~, wherein:

the control-communication circuit is divided into two separate portions, and

each of said two separate portions is respectively suitable for being connected to corresponding separate portions of a control-communication circuit of another similar two-stage optical amplifier, so as to form a control-communication channel between the first stage of the two-stage optical amplifier and a second stage of the other two-stage optical amplifier, and a control-communication channel between the second stage of the two-stage optical amplifier and a first stage of the other two-stage optical amplifier.

10. (Currently Amended) The two-stage optical amplifier according to Claim 1 ~~Claim 6~~, wherein:

the contacts form a direct or indirect connection between the stages of the two-stage optical amplifier, and

the control-communication channel is formed between the stages of the two-stage optical amplifier.

11 - 13. (Cancelled)

14. (original) A system comprising at least one two stage optical amplifier according to Claim 1, further including an OADM connected in the mid stage.

15.-16. (cancelled)

17. (Previously Presented) The two-stage optical amplifier according to Claim 1, wherein:

the amplifier is located on one module, and

the control-communication circuit is provided with a micro controller having an ability to prevent shutting down one of the first or second stages when the other of the first or second stages is to be shut down due to a failure detected at its side.

18.- 20. (cancelled).